

REMARKS

Applicants submit this Reply in response to the non-final Office Action mailed December 28, 2007. Before this amendment, claims 33-64 were pending, of which claims 33 and 47 were independent. In this Reply, Applicants have amended all of the pending claims 33-64, added new dependent claims 65-67 and 69 and added a new independent claim 68, and have rewritten claims 61, 63, and 64 into independent form. Accordingly, claims 33-69 are currently pending, of which claims 33, 47, 61, 63, 64, and 68 are independent.

In the non-final Office Action, the Examiner rejected claim 64 under 35 U.S.C. § 101 because the claim appeared to be directed toward a non-statutory computer program product. The Examiner rejected claims 33-36, 38-50, and 52-64 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication 2003/0032424 ("Judd et al.") in view of U.S. Patent No. 7,203,519 ("Ylitalo"). The Examiner also rejected claims 37 and 51 under 35 U.S.C. § 103(a) as being unpatentable over Judd et al. and Ylitalo further in view of U.S. Patent No. 7,257,425 ("Wang et al.") Applicants respectfully traverse the pending rejections and request reconsideration of the application, as presently amended.

Rejection Under 35 U.S.C. § 101

The Examiner rejected claim 64 under 35 U.S.C. § 101 because it appeared to be directed toward a computer program product which is not patentable eligible subject matter. *See* Office Action dated December 28, 2007, at ¶ 1.

Independent claim 64, as presently amended, recites, among other things, a "computer-readable medium comprising instructions for execution by a processor, the

instructions comprising portions of software codes capable of implementing a method for configuring the radiation characteristics of an antenna . . .” Applicants respectfully submit that the computer-readable medium recited in amended independent claim 64 complies with the statutory requirements of Section 101.

It is well established that “a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory.” M.P.E.P. § 2106.01(l) (emphasis added). Moreover, “[w]hen functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.” M.P.E.P. § 2106.01.

For at least the reasons set forth in M.P.E.P. § 2106.01, the “computer-readable medium comprising instructions for execution by a processor . . .,” as recited in amended independent claim 64, comprises a tangible, functional element that is not merely drawn to a form of energy and is statutory in accordance with 35 U.S.C. § 101.

Rejections Under 35 U.S.C. § 103(a)

Applicants respectfully traverse the Section 103(a) rejections of claims 33-64. To establish a *prima facie* case of obviousness, “All Claim Limitations Must Be Considered.” M.P.E.P. § 2143.03 (8th ed., rev. 6, Sept. 2007). More specifically, the M.P.E.P. requires that “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *Id.* (quoting In re Wilson, 424 F.2d 1382,

1385 (CCPA 1970)). Applicants submit that a *prima facie* case of obviousness has not been established for at least the reason that the cited art, whether taken alone or in combination, fails to teach or suggest every element recited in Applicants' amended independent claims 33, 47, 61, 63, 64, and 68, from which pending claims 34-46, 48-60, 62, 65-67, and 69 depend.

Independent claim 33, as presently amended, calls for a combination including, for example, "receiving, at the antenna unit, information indicating at least one of the weighting coefficients applied by the modules for weighting digital signals."

Independent claims 64 and 68, as amended, calls for a combination including, for example, "receiving, at an antenna unit coupled to the antenna, information indicating at least one weighting coefficient to be applied by modules for weighting digital signals located in the antenna unit." Independent claims 47, 61, and 63, as currently amended, are apparatus claims that each recites, among other things, "an antenna unit comprising one or more signal processing chains . . . each signal processing chain comprising . . . an interface configured to receive information indicating at least one of the weighting coefficients applied by the modules for weighting digital signals." Applicants submit that the cited art, whether taken alone or in combination, fails to teach or suggest at least receiving information indicating at least one weighting coefficient, as claimed.

In the non-final Office Action dated December 28, 2007, the Examiner acknowledges that "Judd et al. fails to disclose at least one module for weighting digital signals capable of applying to a digital signal at least a respective weighting coefficient . . . said weighting coefficients determining the radiation diagram of the antenna." Because Judd et al. fails to teach or suggest at least one module for weighting digital

signals, as claimed, Applicants respectfully submit that Judd et al. likewise does not teach or suggest at least “receiving . . . information indicating at least one of the weighting coefficients applied by the modules for weighting digital signals,” as recited in amended independent claim 33 and similarly required by amended claims 47, 61, 63, 64, and 68.

Applicants further submit that Ylitalo fails to remedy the above-noted deficiency in Judd et al. Ylitalo discloses a weighting means 306 (Figure 3), such that “each separate digital sampled signal is multiplied with a weighting coefficient of the antenna element, usually in complex format, in weighting means 306.” Ylitalo, at col. 10, lines 4-7. However, the weighting means 306 in Ylitalo does not receive “information indicating at least one of the weighting coefficients applied by the modules for weighting digital signals,” as recited in Applicants’ independent claims. Instead, the weighting means 306 determines the disclosed weighting coefficients based on measurements of a received signal, such as input angles and delay of the received signal:

In order to direct antenna beams, each separate digital sampled signal is multiplied with a weighting coefficient of the antenna element, usually in complex format, in weighting means 306. In this way, the antenna beam can in the digital phasing be directed in the direction of a complex vector formed of elementary units. Determination of the weighting coefficient utilizes measurements of the received signal, such as position information of the subscriber device, for instance determination of the input angles and delay of the received signal, performed by a receiver 322. The weighting coefficients are selected according to a typically adaptive algorithm in such a way that the desired radiation pattern is achieved. A control block 320 controls the operation of the transceiver, such as the modulation block and weighting means.

Ylitalo, at col. 10, lines 4-18 (emphasis added). Accordingly, Ylitalo teaches away from receiving “information indicating at least one of the weighting coefficients,” as claimed,

since the weighting coefficients in Ylitalo are instead determined by utilizing measurements of a received signal. In other words, there would be no need for the weighting means 306 in Ylitalo to additionally receive “information indicating at least one of the weighting coefficients,” as the weighting coefficients are already directly determined from received signal measurements.

In summary, Applicants' pending claims 33-36, 38-50, and 52-69, as presently amended, are allowable over the art of record for at least the reason that the Examiner's asserted combination of Judd et al. and Ylitalo fails to teach or suggest at least “receiving, at the antenna unit, information indicating at least one of the weighting coefficients applied by the modules for weighting digital signals,” as recited in Applicants' amended independent claim 33. Applicants' amended independent claims 47, 61, 63, 64, and 68, although different in scope from amended independent claim 33, recite similar subject matter and are therefore allowable for at least the same reasons. Dependent claims 34-46, 48-60, 62, 65-67, and 69 depend on independent claims 33, 47, 61, 63, 64, and 68 and are also allowable for at least the same reasons, notwithstanding the additional reference that the Examiner cited against dependent claims 37 and 51.

Conclusion

The preceding remarks are based only on the arguments in the Office Action, and therefore do not address patentable aspects of the invention that were not addressed by the Examiner in the Office Action. The claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the

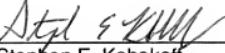
preceding remarks in favor of patentability are advanced without prejudice to other possible bases of patentability.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and timely allowance of the pending claims. Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: May 27, 2008

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